SCIENTIFIC SECTION

Family Practice

Compliance with prescribed medication by elderly patients

ROBERT KENDRICK, BA
J. RONALD D. BAYNE, MD, FACP, FRCP[C]

Factors contributing to improper use of medication were examined in 40 patients aged 65 years or more who were in a home care program. They reported taking an average of 3.8 prescription medications and 1.2 nonprescription medications each. Pill counts showed that they were actually taking 57% of the prescribed medications; compliance decreased with the number of medications concurrently prescribed. Poor labelling instructions, difficulty opening childproof containers and misunderstanding of verbal instructions contributed to this problem. The patients tended to rely more on physicians than on pharmacists or visiting nurses for advice on problems with medication.

Les facteurs pouvant contribuer à un mauvais usage des médicaments ont été examinés chez 40 patients âgés de 65 ans ou plus qui participaient à un programme de soins à domicile. Les patients ont déclaré recevoir en moyenne 3.8 médicaments d'ordonnance et 1.2 médicaments vendus sans ordonnance. L'inventaire des médicaments reçus a révélé qu'ils prenaient en fait 57% des quantités prescrites; la fidélité au traitement diminuait avec le nombre de médicaments prescrits simultanément. L'insuffisance des instructions sur l'étiquette, la difficulté à ouvrir les contenants de sécurité et les malentendus au sujet des instructions verbales contribuaient au problème. Devant les problèmes concernant les médicaments, les patients étaient portés à se fier davantage à l'avis du médecin qu'à celui du pharmacien ou de l'infirmière visiteuse.

One quarter of all the medications that Canadian physicians prescribe are for the treatment of elderly patients.[1] Since the proportion of the population that is over the age of 64 years is increasing, the patterns of drug prescription for the elderly and their use of drugs are assuming greater importance. When medications are not taken according to instructions they become hazardous. Reduced comprehension,[2] visual acuity[2] and strength[3] combine with the sometimes awkward design of containers, inadequate labels[4-6] and similarities in pill characteristics to lower compliance and cause confusion. The situation is aggravated when patients are given more than one drug or have their medications changed too frequently. Another factor, which is not covered in the literature, is the role played by the various health professionals.

We attempted to identify the problems that keep elderly patients from taking their medicines correctly.

From the department of medicine and the office of ageing, McMaster University, Hamilton, Ont.

Reprint requests to: Dr. J. Ronald D. Bayne, St. Peter's Centre, 88 Maplewood Ave., Hamilton, Ont. L8M 1W9

Methods

A random sample of 70 people who were 65 years of age or more (mean 79 years) was drawn from a regional population of patients who were receiving long-term nursing care at home. All were administering their own medications. Most of these people were living alone in self-contained units, and 88% of them were women. Of the 70 patients, 23 refused to be interviewed, 6 could not be contacted and 1 died. We interviewed 40 people.

We asked patients where they kept their medicines and how many pills they should be taking every day. Each was tested for ability to distinguish four sample pills that were different shades of yellow and for ability to open different kinds of containers. From pill counts we calculated compliance indices for the patients.

Results

Medications

Medications were usually kept where they could be reached easily or remembered. Only 15% of the respondents reported having received instructions on what to do with drugs they no longer used, yet 73% disposed of them in the garbage or flushed them down the toilet. Ten percent kept their old medications "just in case", and 5% admitted that they gave these drugs to other persons.

On average the patients had 2.4 nonprescription medications on hand and were currently taking about half of them. Three quarters of the patients using such medication said that their doctor had first given them the idea, but we noted very little follow-up by physicians.

The respondents reported taking an average of 3.8 prescription medications each. They either did not know or misidentified the names of 56% of the medications, and 20% of the time they could not correctly identify the condition being treated. In 29% of cases the subject's understanding of the instructions differed from what was written on the drug label. The average level of compliance was 57% in the 31 patients for whom it could be calculated.

Compliance decreased as the patients' prescription medications increased in number. Indices ranged from an average of 65% (with one drug) to 54% (with four drugs) and 47% (with six drugs). Surprisingly, vitamin and iron pills were taken with greater regularity than the more important medications, such as cardiovascular drugs.

To determine more closely the patients' comprehension we asked them "If the instructions on your label said 'Take one tablet every 6 hours' how many tablets would you take in *one day*?" Only 22% of 37 patients answered that they would take four pills in a day. Instructions to take one tablet before each meal were interpreted correctly by 84%.

In watching the patients we saw that 13% were unable to open flip-top containers and another 8% could do so only with difficulty; 63% had difficulty with the "palm 'n turn" caps and 53% with those requiring the alignment of arrows on cap and bottle.

On a test for colour recognition we found that 58% of the patients identified sample pills that were different shades of yellow as being the same.

Relations with health professionals

In the preceding year 83% of the patients had seen a family physician, and 70% of these had consistently seen only the one doctor. The group averaged 0.7 visits with a family physician in the month before our study, and if telephone calls are included the rate of contact was once per month.

The patients reported visiting the pharmacy an average of 0.3 times and speaking with the pharmacist 0.8 times per month, mostly to renew prescriptions. There was little personal contact because almost all of these patients (90%) were having their medications delivered or picked up.

Community nurses visited the patients an average of 5.8 times per month, yet hypothetical cases presented to the patients showed that they would first turn to their physicians for advice on problems with medication. Instructions for the medication were said to come from the doctor by 60% of the patients, the pharmacist by 15% and the visiting nurse by 10%.

Discussion

Our subjects were generally heavy consumers of both prescription and nonprescription medications, as other investigators have found the elderly to take only 2.0 to 2.8 drugs, on average.[7,8] Our figure of 3.8 prescription medications per patient may reflect the greater needs of those receiving long-term home care. Since the possibility of drug interactions is increased by the number of medications, the use of nonprescription drugs is more significant than usual.[9,10] A way should be found to reduce the number of medications prescribed for the elderly or to monitor their use.

Elderly patients commonly have a deficient understanding of their medications and when to take them. Schwartz and coworkers[11] found that 24% of their subjects were confused or incorrect about the purpose of their medication. Improvement in this area depends upon communication between health professionals and patients.

Oral instructions should be reinforced with explicit written instructions, which the patient can refer to when uncertain. Patients who normally have their medications delivered can be sent directions for their use; this would be a substitute for personal contact with the pharmacist.[12,13] Labels themselves can be improved, as outlined by Eustace and colleagues.[14]

Our results confirm the observation that similarity in pill shapes and colours confuses the elderly patient. The pharmacist may be able to anticipate this and supply tablets that are distinct from each other.

If a patient has difficulty opening childproof pill bottles, a different type should be requested. Very few people are aware of this option.[7] As an alternative to extensive public education the pharmacist could ask each elderly patient if the containers are easily opened.

The pharmacist, however, is seen as the provider of drugs rather than information.[7] Our subjects consulted community nurses fairly often, but less than one would expect, and were most likely to turn to their family physician for advice on medication.

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